

<u>Create a macOS virtual machine box using Vagrant and Parallels Desktop</u>

- Parallels Desktop for Mac Pro Edition
- Parallels Desktop for Mac Business Edition

We know many of you want to have an opportunity to create a macOS virtual machine (VM) Vagrant box to run it on a Mac with Apple M-Series chip. Starting with Parallels Desktop 18.3.0 you have the option to do that. It's important to note that we're constantly doing our best to streamline the process and make it more convenient for your needs.

Note: Vagrant plugin is available in Parallels Desktop Pro and Business Editions only.

In this article, you will learn how to create a macOS virtual machine box for Vagrant that runs on Mac computers with M-Series chips.

- 0. Download and install **Vagrant**.
- 0.1 Install Parallels plugin for Vagrant by executing the command below in Terminal:

vagrant plugin install vagrant-parallels

1. Start Parallels Desktop and create a new macOS virtual machine as outlined in KB 125561.

Note: While creating, give the username as 'vagrant' only.

- 1.1. Enable passwordless sudo for macOS virtual machine.
- 1.1.1. Open Terminal in macOS virtual machine and run sudo visudo

Edit the line:

```
%admin ALL=(ALL) ALL
```

To say:

```
%admin ALL=(ALL) NOPASSWD: ALL
```

Now, you should now be able to run sudo without password.

- 2. Install Parallels Tools inside the macOS virtual machine.
- 3. Boot macOS virtual machine and enable Remote Login (System Settings > General > Sharing > Enable Remote Login). Don't forget to give "Full disk access to users", do allow "All users" (in the same settings, press button)



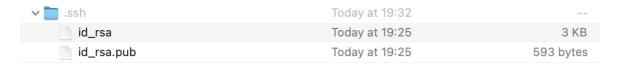
- 4. Restart macOS virtual machine for the Remote Login to take effect.
- 5. Create an ssh public-private key from the host.
- 5.1. Start Terminal on the host side.
- 5.2. Execute the following command:

ssh-keygen -t rsa

5.3. After every step press "Enter". You don't need to use a passphrase or file. As a result, you will get a similar output as in the example below:

```
[Aydaskhans-MacBook-Pro:~ aasochakov$ ssh-keygen -t rsa
Generating public/private rsa key pair.
Enter file in which to save the key (/Users/aasochakov/.ssh/id_rsa):
/Users/aasochakov/.ssh/id_rsa already exists.
Overwrite (y/n)? y
[Enter passphrase (empty for no passphrase):
[Enter same passphrase again:
Your identification has been saved in /Users/aasochakov/.ssh/id_rsa
Your public key has been saved in /Users/aasochakov/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:4q9IKS0iCgHY1QoxGiF0pU0nZl5EE3kCHx4FtCAl99M aasochakov@Aydaskhans-MacBook-Pro.local
The key's randomart image is:
+---[RSA 3072]----
|==+0*&=.
|o+BoXoB.
|+ .B 0oE
|. + + .
 |. . . S
   . 0 .
|+ 0 + .
+. + . .
   --[SHA256]-
Aydaskhans-MacBook-Pro:~ aasochakov$
```

It will generate the files below in the ~/.ssh/ directory:



6. Upload the **public** key to macOS virtual machine from your host by executing the command below in Terminal:

ssh-copy-id vagrant@<virtual machine's ipv4 address>

Note: To check your virtual machine's IP address, go to Finder > System Settings > Network > Ethernet > IP address.

- 7. In Parallels directory on your Mac create a folder (something simple like 'VagrantTest').
- 8. Copy the initially created bundle of your macOS virtual machine (it has the .macvm extension) to the newly created folder (VagrantTest).
- 9. Optional: You can rename macOS virtual machine with a unique name so that you won't get any name collision issues.
- 9.1. Run Terminal on the host side and execute the following command:

prictl set "macOS 13" --name "macOS_13"

Where the name 'macOS_13' is your virtual machine's name.

Note: Renaming the virtual machine is one of the solutions to avoid name collision. You can also remove macOS virtual machine from Control Center (Parallels icon > Control Center > Right-click on macOS 13 virtual machine > Remove 'macOS 13' > **Keep Files**).

- 10. Download <u>Vagrantfile</u> and put it in the VagrantTest folder.
- 11. Download metadata.json file and put it in the VagrantTest folder.
- 12. Copy your **private** key from ~/.ssh/ directory in VagrantTest directory and rename it to 'vagrant_private_key':

∨ 🚞 VagrantTest	Today at 12:55	
>vagrant	12 May 2023 at 16:28	
custom.box	12 May 2023 at 15:53	13.26 GB
macOS_13.macvm	12 May 2023 at 15:09	68.75 GB
metadata.json	12 May 2023 at 15:42	146 bytes
vagrant_private_key	12 May 2023 at 15:38	3 KB
Vagrantfile	12 May 2023 at 15:55	629 bytes

- 13. Create a box by Terminal.
- 13.1. Execute the following command:

\$ cd VagrantTest then

\$ tar cvzf custom.box ./box.pvm ./Vagrantfile ./metadata.json ./vagrant_private_key

custom.box - any box name. For example, vagrant.box, vagrant_project.box, etc.

box.pvm - macOS virtual machine's name from step 1 (for example, macOS_13.macvm)

Vagrantfile, metadata.json, vagrant private key - files from VagrantTest folder.

Note: The name of the macOS 13 virtual machine should not contain any spaces.

√	Today at 12:55	
>vagrant	12 May 2023 at 16:28	
custom.box	12 May 2023 at 15:53	13.26 GB
macOS_13.macvm	12 May 2023 at 15:09	68.75 GB
metadata.json	12 May 2023 at 15:42	146 bytes
vagrant_private_key	12 May 2023 at 15:38	3 KB
Vagrantfile	12 May 2023 at 15:55	629 bytes

- 14. Add the created box into vagrant boxes:
 - 14.1. Run Terminal and execute:

vagrant box add <name>.box -name macOS13 where:

<name>.box - .box file from VagrantTest folder (like on the example screenshot above)

15. Go to ~/.vagrant.d/boxes/macOS13 folder and check that extension of macOS virtual machine is .macvm:

√ imacOS13	12 May 2023 at 16:03	
∨ □ 0	12 May 2023 at 16:03	
→ i parallels	Today at 12:58	
box_id	12 May 2023 at 17:30	36 bytes
macOS_13.macvm	12 May 2023 at 17:31	68.75 GB
metadata.json	12 May 2023 at 15:57	146 bytes
vagrant_private_key	12 May 2023 at 15:57	3 KB
Vagrantfile	12 May 2023 at 17:30	629 bytes

16. Now create a new folder in the home directory and name it VFTest (In the Finder, you can open your home folder by choosing **Go > Home** or by pressing **Shift-Command-H**).

Note: The name of the folder can be different. 'VFTest' is just for example.

17. Download Vagrantfile and put it in VFTest folder.

Note: The name of the file is VagrantfileVF. Please delete 'VF' so the name should be Vagrantfile like on the screenshot below:

∨ 📄 VFTest	12 May 2023 at 17:29
>vagrant	12 May 2023 at 17:30
Vagrantfile	12 May 2023 at 17:29

18. In Terminal you should go to the directory with Vagrantfile ('VFTest' folder from step 15). Just type:

cd <path to the VFTest folder>

Check the example below:

Aydaskhans-MacBook-Pro:∼ aasochakov\$ cd /Users/aasochakov/VFTest

19. And try any Vagrant command. For example:

vagrant up -provider=parallels

20. This command will start macOS virtual machine (the name of the virtual machine will be different):



Now you are ready to execute Vagrant commands.

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